BRITISH MUSEUM

TO

The Vertuous,

AND

Most Renowned Gentleman,

Mr. *Frederick Cludius*,

Doctor in Physick,

His truly honoured Friend.

Worthy SIR,

THree considerations have induced me to offer these rude and un-

polished lines to your Patronage and favourable acceptance. The first is, the Learning and fame of the Author of this Treatise, who carrieth the same Title as Your Self. The second is, the worthinesse and great esteem and acuity of spirit

of

of that Person of Honour, Sir Kenelm Digby, to whom it was offered by the Author. The third is, the worthiness, wisdom and deep Learning wherewith You are indued & adorned, which that Noble Knight well knowing, for an acknowledg-

ledgment thereof, hath presented this Book to your view, as a piece of great novelty. I shall not presume to implore your Protection for the subject, but onely for this my rash attempt in the translating of it; which if it may auspiciously be admitted

mitted into Your friendly estimation, doubtlesse twill find an universall acceptance amongst Persons of greatest Eminency; All I humbly crave for the present is, my boldnesse might be favourably excused, since 'twas my lawfull Ambition there-

thereby to avoid Ingratitude; However this Work be esteemed, may your deserved good name and honor encrease: more and more; which is and shall be the constant Vote of, Sir,

Your humbly devoted Servant,

D. Sasbout.

BRITISH MUSEUM

A NEW TREATISE, PROVING A Multiplicity OF WORLDS.

CHAP. I.

Of the Plurality of Worlds in general, being as a Preface to the following Chapters.

WE may truly say, that Preoccupation is an horrid Monster, which makes

a strange havock in the spirits of Men, hinders the progress of Sciences, and causes Men to droop in a constant ignorance; for they who by it are once prepossessed, can judge of nothing by themselves, censure the best opinions that are, assert those of their Masters, whether good or bad; and having conceived a distaste of whatsoever checks what is contrary to their belief, though grosse and ignorant, bring forth nothing but contempts and blames against those who endeavour to open their eyes, and root them out of the darkneſſe of their ignorance, to draw them to the enjoyment of the true light

and

and knowledg of things.

The which is more particularly practiſed now in this Age wherein we live, wherein Men live but by imitation, wherein learned Men are deſpiſed, wherein they who have ſome particular and rare notions upon ſubject matters of great moment and concernment to mens knowledge, are effectned extravagant and ridiculous, wherein no new propoſition can be admitted.

But alas, what may I hope, ſeeing this evill is like a gangrene, and hath taken ſo deep root, that it hath robb'd men of their ſenſes and feeling, who by it are infected, Conſidering, that thoſe who are

most possess'd with it, do not think so themselves to be; What then may I expect, who am going to propose some Novelties, not of things that are in the Earth, but even in the Heavens; and not onely in the Heavens, but also in the bodies of the Stars.

As soon as the Title of this Discourse shall appear to the eyes of Men, they will condemn me before they hear me; neither will they so much as read my Reasons, and will rather live in ignorance, then change their opinion; and be as beasts in the World, than know the secrets thereof.

Most men think it a shame to confesse, that they are ignorant

norant of ſome thing; and that they are in the wrong; for on the contrary, it's the way to find out the truth, conſidering, that new reaſons are alwayes ſought for what we eſteem our ſelves ignorant of.

Mens ignorance is ſo great, that the holy Scriptures have declared Mens knowledg to be nothing elſe but vanity; and if we do not flatter our ſelves, we ſhall find, that we know nothing but is or may be controverted. Divinity it ſelf is not exempted from it; and as for the other Sciences and Arts, thoſe great & many Volumes that we have of them, ſufficiently teſtifie the ſame. And this hath moved

the *Pyrrhonians* and *Scepticks*, to doubt and question all things, and hath brought forth severall Books of the vanity of Sciences, the Astrology, the Medicine, the Jurisprudence, and the naturall Physick are daily moved and shaken, and see their foundations totter; *Ramus* did overthrow *Aristotle*'s Philosophy; *Copernicus*, *Ptolomey*'s Astrologie; *Paracelsus*, *Galen*'s Physick; So that every one hath followers and disciples, and all appearing plausible. We have much ado whom to believe, and thereby are constrained to confesse, that what we know, is much lesse then what we know not.

I greatly esteem *Michael Mountanus*'s Judgment, who is the honour of our Age upon this point; for it is consonant to reason, and my opinion hereupon is for the most part agreeing with his; and especially with that is the subject matter of this Treatise: Amongst a thousand rare thoughts that he hath upon it, he alledges a most exquisite similitude, by which he compares learned persons to the ears of corn, which being well fill'd, do bow down their heads; for after they have learned all Sciences, and have consumed themselves in them, they are constrained to confesse, that they know nothing by the acknow-

ledgment of that great Philosopher, in these words; *Hoc unum scio, quod nihil scio*, I know this one thing, that I know nothing.

If then we be ignorant of all things, may we not yield, that we can be ignorant of heavenly things especially, and that they are praiseworthy, who have endeavoured to raise their contemplations and meditations up into Heaven; and having, as it were, loosened their Souls from their bodies, have made it to wander and run through the Vaults and concavities of Heaven, there to observe those things which were above our reach? Our understanding being heavenly, and

Soul full of knowledg & perfection, is not ignorant of these things; but the lump & corpulency of the body, which is its prison, hinders it freely to perform its functions; it would willingly rise up, and at every moment lenche it self up towards the place of its original; but the weight of its body keeps it low and under, and the mixture of the Elements wherewith the body is composed, makes its agility dull and heavy.

If, before the Invention of Artillery, of Printing, of Prospect-glasses, and of infinite number of other Inventions, that in these times are practised, their effects had been told to us, we had never be-

lieved them; for if it had been asserted, That with the powder, without stirring, we might kill beasts distant from us; and not onely the beasts on the earth, but also the fowls and birds flying high through the ayr, throw down walls of Cities, and batter and thunder down the strongest places; and that in a moment those instruments should execute our will: That by printing, and the letters, we might communicate our thoughts to another, and write in a short time a number infinite of books, and even write a thousand times faster then we speak, transmit and leave to our posterity our exquisite conceptions, and

get

get an immortal name; And that by the prospective-glasses, we might approach to objects far distant, strengthen our sight, and make us distinctly to see things far remote; If these things (I say) had been proposed to us in a time, wherein farther speech and enquire had never more been made of it, who had believed them? but rather who had not laughed at them, and derided the first motioner of them? and yet experience daily sheweth the effects of these Inventions to be true.

So the former Ages did condemne as heretickes, those who believed the Antipodes; and this belief was a

long

long time held for a false and ridiculous opinion; *Christophorus Columbus* was rejected of divers Kings, when he proposed to them the discovery of the *West-Indies*; and yet his propositions have been found very true, and have immortalised their Author.

So likewise do I hope, that time will bring forth the truth of this my opinion, which I do not produce to the light, without many strong Reasons, and the authority of the most learned men, the holy Scripture it self is not repugnant and contradictory to it, but rather leans much towards my opinion: And as touching those Philosophers, who grant it

nor,

not, some deny not, but that this may be; others dare not contradict it; and others have so ridiculous reasons, that I cannot imagine weaker can be found; and considering all they, no more then I, have ascended into Heaven, and therefore who ever hath the best Reasons, ought to be believed; which being doubtlesse on my side, my opinion ought not at all to be esteemed ridiculous.

Democritus, King of the *Abderitanes*, constantly smiled, because the World could not apprehend the multiplicity of Worlds; I, like him, have also sufficient occasion to smile, and laugh at those, who are ignorant of the plu-

rality

rality of the Worlds, and even to compare them to bruit beasts, which eat the fruits of the Earth, without considering whence they come to them: for Man is lodged in this World, to contemplate in it the wonders that God exposes to the sight of his eyes, and to which end he hath given him a face looking upward, for to look up to Heaven; but he will not make use of his gifts, nor enquire after the place of their habitation.

Why open ye not your eyes, O ye learned and wise Men? and why awake ye not out of your slumber, and deep sleep? Awake up the eyes of your Understanding and

and Reason towards the Heavens, contemplating the wonderfull things thereof; despise the earthly things; and as true Philosophers, consider the rest of Men in a dunghill, having their thoughts low, and Earthly Souls, which not being able to stretch themselves beyond the limit of their weak activity, dare even accuse those who by noble projects desire to lend them their hands, for to draw them out of their ignorance.

Having then so many, and so good Reasons and authority on my behalf, I shall not longer fear those, who scarce can find any for the confirmation of their opinion, or

what

what they have is so weak, that the building, that the edifice is upon, tottereth and leans on every side; therefore will I not fear those backbiting tongues which envy anothers good repute and fame, which I already foresee in great number opened against me; but I shall justly say, that they accuse God and Nature of weakness and insufficiency, and their own proper reason of incapacity; Can it be possible, that so many rare and great persons, who in former Ages did believe it, and whose memory is by us honoured and reverenced, had erroneous opinions? and that so many pertinent reasons

should

ſhould have no ſolid ground? Could it be poſſible, that you would not willingly hearken to thoſe who deſire to free you from your miſtakes? nor ſuffer your eyes to be unfolded, when they be folded with the vail of Preoccupation? No, I hope, that ſome of the moſt reaſonable at leaſt will be found, who will adhere to me, and take my part againſt the aſſaults of the ignorants, who endeavour to diſcredit me, thinking to obtain great glory, for the endeavouring the overthrow of ſo great a project; for that is their ordinary ſcope;

Alia

Alta petit livor, præstant altissima venti,
Alta petunt dextrâ fulmina missa Jovis.

That is,

Envy, nothing but high things emulates,
As by the whirlwinds shaken are high States;
And the thunders of great Jupiter *the god of gods,*
Fall upon the Steeples, and not upon the Valleys.

But I shall smile at them in my heart, and applaud my self, if none can be found to second me, hoping that the Ages to come will produce

duce men more reasonable; and who, better esteeming my conceptions, will accuse this present Age of great ingratitude.

Chap. II.

Proving the plurality of the worlds, by a reason taken from the place wherein are ingendred the Comets.

PRoclus, *Cardanus*, *Telesius*, and others have observed, That most of the Comets are formed not onely out of the Region of the Meteors, but even far above the Moon; and *Tycho-Brahe*, that great Astrologian, who by his exquisite

quisite and rare Observations, hath gotten an everlasting name, discoursing of it, hath asserted, *That all the Comets are formed above the Moon, even according to* Kepler, *as high as the Sun.* Now it's Impossible for the vapours to pierce and penetrate into the fiery Region, there to be changed into Comets even far above it, considering, that according to all the Philosophers Judgment, the fiery Region is under the concavity of the Moon, and so these Comets are formed out of the exhalations of other Lands which are the Starres; it's so clear and perspicuous, that I cannot believe that any Man is so void of Reason as to deny it.

it. If it be objected, That it cannot positively and certainly be known, that the Comets are above the region of the Moon; I shall send them to the School of Astrologie, which teaches by true Rules and Demonstrations, the way to measure all the bodies, and their far distances from the earth; the which *Galileus*, a Person of great fame and renown in this our Age, hath confirmed by such like Observations.

Chap.

Chap. III.

Proving the same, by another Argument taken from the bigness and continuancy of the Comets.

THE same Astrologers have observed, That some Comets have so vaste and great bodies, that it's impossible to believe, that the exhalations of this Earth could furnish them sufficiently with matter; but I shall dare to go beyond, and shall say, That though all the Earth should be dissolved into vapours and exhalations, yet it could not form so great

Comets,

Comets, and of such long continuancy, as those which sometimes have been seen, although it should all be burned; insomuch, that it's needful to say, That the other Stars, whose body is so great in comparison of this our little Globe, did furnish it with matter.

Chap. IV.

Proving the multiplicity of the Worlds, by a reason drawn from the conformity of the Moon with the Earth.

ALL Philosophers and Astrologers are agreed, That the Earth and Moon have

have this commune betweeñ them, that they both are thick, groſſe, dark, and ſolid bodies, able to receive and refreſh the light of the Sun; this being granted, What is eaſier than to conclude, That the Earth reverberating the beams of the Sun, would appear lightſome to them who ſhould be raiſed high towards Heaven? that it would ſeem ſo little and ſmall by its far diſtance from us, that it would be almoſt like the Moon, both in light and bigneſſe; and that it would even have its ſpots, becauſe of the waters which bury and ſmother the Sun beams; and do not reverberate them. We might diſcover in it by pro-

prospective glasses some of the chiefest Mountains, whereby we might soon be perswaded to believe, that those Seas and Mountains are inhabited and filled with living Creatures.

And if we turn what we have said of the Earth, to the Moon, shall we not say the same of it? Wherein we discover those spots, that by *Galileus*'s prospective-glasses helps us so naifly to distinguish, that we see in it, as in a Table and Mapp, some Seas, some straights, some Lakes, some Rivers, and some Islands, some Rocks and Mountains, that are perceived to swell out, especially at the new Moon.

And if it be true of the Moon, can it not be true also of the other Stars? but their far distance stealing from our eyes their spots, we must judge of it by the Moon, which though lesser, is nearer to us, and appears greater to our eyes; and that we may not think, that the same things that are seen in the Moon, cannot appear in the other Stars, the Telescope sheweth us a Mountain in *Mars*, some spots in other Stars, and that *Venus* increaseth and diminisheth even as the Moon.

Chap.

Chap. V.

Wherein is proved, this Opinion of divers worlds, in that the Earth is a Starre, as the others.

THe foregoing Chapter declaring to us, how the Earth would appear lightsome to us, if we were once high raiſed up from it, becauſe it reflects the beams of the Sun, which according to the divers places by it inlightned, would cauſe it to increaſe and decreaſe; conſidering alſo, that Mountains ſeen from far are bright and ſhining; and that, as *Mil-*

chius saith, the fields adjacent to mount Hesperides, shine at night as the Stars; and seeing also that the Earth is moveable, as hereafter we shall prove it, that it is situated in the Ayr, and weighed and counterpois'd in its proper weight, and that the Ayr is the Heavens, as the Holy Scriptures do sufficiently prove it, when at every moment they confound the Ayr with the Heavens, Shall we not then say, That the Earth is a Star situated in Heaven, as well as the other Starres? That this at the first sight will amuse the Readers, but they shall be pleased to yield, That the yolk of an egg is in its shell, neither can they deny,

deny, that the Earth is in Heaven, which wraps and compasses it on every side as an egg-shell; and that the infinite spaces of the Aires, which are the Heavens, do not contain divers bodies far distant one from the other, and so consequently the earth seeming from on high little and lightsome, may be a Star inhabited.

But if the Earth be a Star inhabited, the others may be Earths inhabited, being they, as well as the Earth, seem and appear to be great and lightsome bodies to those who are far remote from them.

And that no Man may object, that the Heaven is a

place coloured, ſolid and ſeparated from their aire, I beſeech him to conſider, that things far remote from us, appear as the Skie, even the Mountains and Seas ſeen from far, ſeem blewiſh; ſo that this skie-colour'd Heaven that we ſee, is not a ſolid and reall thing, but the limit of our ſight in a certain place of the infinite ſpaces of the Aire, which are the common place, wherein are lodged an infinite number of great globes of divers natures, or inhabited by ſeveral living creatures, which the Sun being in the middle, equally inlightens; as a great Torch ſet in the midſt of a Chamber, ſhines in every

corner

corner of it, with the brightneſſe of its light.

Chap. VI.

Proving the ſame, by the great number of the Stars, and by their nobleneſſe.

THoſe who imagine, that the infinite number of the heavenly bodies are created for the globe of the earth, and for the advantage of its Inhabitants, are much miſtaken: for natural reaſon doth ſufficiently diſſwade us to believe, that the greater things ſerve the leſſer; and that thoſe that are the nobleſt, ſerve the vileſt, and

that are of leſſe conſequence and moment; Is it not very like, that every Globe makes a World, or a particular Earth? and that this great number is ſuſpended in the Air, whereof the vaſt ſpace conjoyns them all as ſo many dependances from the everlaſting and divine Empire: the greatneſſe and bigneſſe of the whole World is compoſed of divers creatures, which though far remote and differing one from the other, as well by their nature, as by their place, do notwithſtanding ſo well agree in a mutual love, that they compoſe and make up a perfect harmony in the World, where the Heaven or the Air is their

common

common ſpace, and the Sea, whereof the Earths or Stars are the Iſlands, which doth ſo joyn and ſeparate them, and therefore is this Ayr pureſt, near the perfecteſt bodies; nevertheleſſe, this ſpiritual body of the Air equally receives the influences and operations of every Globe, and communicates with great ſpeed to every one thoſe of all the others.

Chap. VII.

wherein the same is proved, by a reason drawn from the bigness of the Stars.

Pythagoras did often call the Earth a Moon; and, all well considered, What hinders, that the Earth be not as well reckoned in the number of the Stars, as the Moon, seeing that (as we have said) the body of both of them is of a thick, dark, and heavy matter, that both do borrow their light from the Sun, that they are both solid, and reverberate the beams of this light of the world,

World, that both produce vertues and ſpirits of themſelves, and that both are heng'd and ſuſpended each in its aire or heaven, and upon its center: and having all theſe things common together, may not the Moon, and ſo conſequently the other Stars, infinitely bigger then it ſelf, have Inhabitants? And indeed this exceeds all belief, that ſo great bodies as the Stars, which many times over exceed the Earth in bigneſſe, ſhould be ſo idle and barren, that no creature ſhould dwell in them, and that their motions, labours, and actions, ſhould onely redound to the advantage of this Terreſtriall Globe alone,

alone, which is the least and meanest of all.

Chap. VIII.

Proving the same, by the Creation, multitude, and society of things.

God (with respect be it spoken) finding himself weary of solitarinesse, did in a manner go out of himself, by the Creation, and poured himself, as if it were wholly, into Creatures, and commanded them to multiply; and is it not also more meet and convenient to his goodnesse and Divine glory, to have made one whole world alone,

as

as an Empire adorned with varieties of worlds, as with Provinces and Cities; and that these divers worlds be the habitations of so many Citizens and numberlesse Inhabitants of divers kinds, and that all these things be created for the praise and everlasting glory of their Maker, and that the Sun be in the midst of them, to inlighten them all equally.

Chap. IX.

Confirming the Plurality of the Worlds, by the privation of Mens Sciences and Knowledg after Adam's *Sin.*

THis Doctrine of many Worlds or Globes inhabited, is not repugnant to the holy Scriptures, which do onely discover to us the Creation of that which we inhabit; of which they even speak what they mention, in a discourse more mystical then clear; onely briefly mentioning the other creatures of the world, for to yield greater occasion of admiration

miration, then of knowledg to mens weak ſpirits, of old fallen from the knowledg of Sciences; this obſcurity of the truth, and theſe darkneſſes of Mens underſtanding have been part of the pains and miſeries that *Adams* ſin drew upon us, by reaſon whereof Man was excluded from the delights of Paradiſe, from the ſatisfaction that is in the knowledg of Sciences, from the true knowledg of the nature of heavenly things, that he who had raiſed himſelf up to the wicked deſire and appetite of forbidden things, might juſtly be deprived of the knowledg that had been granted him.

Chap.

Chap. X.

Containing a Reason drawn from this, That the Earth is not the Center of the World, but the Sun; With a description of Copernicus *his Sphere.*

Theophrastes writes, That *Plato* in his old age repented, to have placed the Earth in the Center of the World; and St. *Chrysostome* saith, That the seat and scituation of the earth is not known: and after him *Nicolas Copernicus*, that great Astrologer, who after long study in Astrology, hath thereof

thereof known the falſhood, did ſo well confirm this opinion, and unto this day hath rendred it approved by the beſt and rareſt ſpirits of theſe Ages, that I doubt not, but that the Reaſon I thence intend to draw, will be ſufficient and pertinent enough: he hath grounded his opinion upon admirable demonſtrations which have overthrown the ancient Aſtrology; yet without overturning the Science; but he did onely find the truth, and the ſame predictions; aſpects, and other needful things with his new Maximes, which have eſtabliſhed this Science: with much more perſpicuity and certainty, he ſettles the Sun

in

in the Center of the World, where it is immoveable as a great Torch in the middle of the world, as a great King upon his Throne, whence he rules all the heavenly Globes, which are nothing but Earths, like unto that we inhabit; and round the earth he causes the Moon to move alone; and round about the Sun, *Venus* and *Mercury*; then *Mars*, *Jupiter*, and *Saturn*, and the other Spheres wrap all that in; and so the Earth is found to be distant from the Center of the World, and in the third Heaven; so that being distant from the Center, it may easily be said, That the other Globes of equall, or even, of more vaste

vaſte extenſion, that are in equal diſtance from the center of the World, which is the Sun; may be Globes inhabited with Creatures, whoſe true deſcriptions we know not: the Figure of this may be ſeen in *Campanella*, *Gaſſendi*, and other Authors.

Chap. XI.

Proving the ſame thing, by the motion of the Earth.

THe ſame *Copernicus*, who after *Philolaus*, *Crotoniatus*, *Ecphantes*, *Ponticus*, *Heraclides*, *Nicetas*, *Syracuſius*, *Democritus*, *Timeus*, *Ariſtarchus*, and

and *Seleucus*, hath confirmed and renewed the opinion concerning the motion of the Earth: and the immobility of the Sun, gives us by this motion yet one means to prove our opinion; for if the Earth be moved in the Aire, and doth its course as the Stars far distant from the Center of the World, what hinders, that it be not put in the number of the Stars? and contrariwise, that the Stars which have such a motion, be not earths; and if they be Lands, to what purpose, if they be not inhabited; and that we may say nothing without proof, the next following Chapter shall prove the motion of the Earth.

Chap.

Chap. XII.

Proving the Motion of the Earth.

WEe have here above promiſed to prove, that the Earth moves, becauſe we have hence drawn an argument to confirm our Opinion; though moſt men of underſtanding now adayes believe this motion of the Earth as better clearing the courſe of the Stars, the order of the Heavens, and the ebbing and flowing of the Sea, yet I ſhall ſpeak ſomething of it.

The Heavens and the Stars hac

had cheaten three thousand years, all the World did so believe it; untill that *Cleanthes* the *Samian*, or, as *Theophrastes* saith, *Nicetas* of *Syracuse*, was resolved, that the Earth moved upon its prop. And in our Age, *Copernicus* hath so well grounded this doctrine, that he makes use of it for a rule to the consequences of Astrologie, and freeth our spirit from those impossibilities, that the Astrologians of old would make us believe; for, according to their judgment, the first *mobile* should run in one minute 706640 miles and a half, and that one and the same body had contrary motions; Is it not more probable, that the

the Earth turns round in 24. hours from the West to the East, as in former Ages, *Timeus Locrensis*, *Philolaus*, *Aristarchus*, *Franciscus Marius*, and others, did believe it?

Keplerus, *Longomontus*, *Origanus*, *Campanella*, and others of our Age have acknowledged this truth; *Galileus* also seems to be of the same opinion, when he saith, *That if the Earth did not move and turn, the Sea could not have its flux and reflux.*

We are as those who are in floating Islands, or in a Ship, who think that they move not, but that, on the contrary, Sea-banks seem to flye from them; for we cannot perceive the motion of the

the Earth, as well becauſe of its bigneſſe, as becauſe that we are not looſed from it.

But if in oppoſition to this, be alledged those Texts of the Word of God, which ſay, that the Sun is moveable, and the Earth fixt; may it not ſuffice to anſwer, That God ſpeaks according to mens belief, as he hath done upon a thouſand of other ſubject matters; as when he calls the Moon the *great light*, though an infinite number of others are greater. As for the Argument that is alledged from a ſtone caſt down from high far from us, if the Earth turn; I anſwer, That the Ayr roles and turns with the Earth, and that a ponderous

derous body falls down in so short a time, that the Earth cannot by its motion in 24. houres be alienated from it.

It's also objected, That the Towers would fall, and that the Clouds and Rivers would all follow the course of the Earth. But I answer, That the Clowds are agitated by the winds, and therefore cannot follow the course of the earth; and as for the Towers, they cannot fall, considering that the Earth's motion is not violent, and that the Towers, by reason of their ponderosity, bend still towards the Center of the earth, and are not removed from their situation; And as

touching the Rivers, the earth being as a gall-nut, a River may run towards the East, by the bending of its Seats towards the center of the earth, although the Earth tends towards the West; which may easily be apprehended, if we conceive, that a man walking in a Ship, directs his steps towards the East, whilest that the Ship sayles to the West.

Many severall other Reasons are objected, which are but weak; but because there are divers Discourses touching the Earth's motion, which resolve them, and reconcile the places of the holy Scripture upon this subject matter, amongst whom are *Foscarinus*,

carinus, and *Barantzanus*; I shall desire the curious Readers to read them, and shall content my self with what I have said.

Chap. XIII.

Proving the Plurality of the worlds, by the variety of all natural things:

NAture is various in all its operations; and God hath put such variety in all his Works, that we can find nothing uniform in this world; all things in it are various and different: and this great diversity causes us

the more to admire the Creator of this whole Fabrick. If it be so concerning the earth, which is near-upon the smallest of all the Globes, what will it not be of the heavenly, which are incomparably greater? For this cause did *Campanella* say, That though God and Nature do nothing in vain, yet such a great number of Stars, greater then the earth, would be in vain, if there was not in them divers demonstrations of the Idea's of God; It's then consonant to reason, that not only the four Elements be in every one of the Starres, but also that Men, Beasts and Plants, and all whatsoever is seen amongst us, be in them.

And

And thus did this famous Person of our time speak.

Chap. XIV.

Of the measures and dimensions of the Stars, and their distance from the Earth, and proportions with it; with an argument taken from those distances, for to prove the multiplicity of Worlds.

BUt because we have often mentioned the bigness of the Stars, and how they exceed the Earth in extension, and also spoken of their infinite distances; It will not be out of purpose, and beyond our present Dis-

course, to insert them in this Chapter. These distances are somewhat variously given by divers Authors; but the difference being but small, is not of great concernment to us: *Charles Rapineus* gives these distances in his book, called *Nucleus Philosophiæ.*

The Moon is lesser then the Earth 39 times; and according to *Cardan*, thirty nine times and a half.
Mercury is lesser then the Earth by 1100 times.
Venus by 37 times.
The Sun is greater then the Earth, by 166 times.
Mars by 1 time.
Jupiter by 95 times.
Saturn by 91 times.

The

The fixt Stars are innumerable, but those that are observed by the Astrologians, are 1022, and are of proportions of bigneſſe:

Those of the first magnitude, are 15 in number, and are bigger then the Earth by 117 times.

Those of the second magnitude are 45, and are bigger then the Earth by 90 times.

Those of the third, are 208, and are bigger then the earth by 72 times.

Those of the fourth, are 472, and are bigger then the Earth, by 54 times.

Those of the fifth, are 17, and are bigger then the Earth, by 37 times.

Thoſe of the ſixth, are 49, and 5 dark, and 9 bright ones, and are all bigger then the Earth by 18 times.

The concavity of the Moon is diſtant from the Center of the Earth 14291 leagues, which are 28541 miles.

From the Center of the Earth to *Venus*, there is 542749 miles.

To the *Sun*, 3640000 miles.

To *Mars*, 3965000 miles.

To *Jupiter*, 28845000 miles.

To *Saturn*, 46816250 miles.

To the Concavity of the Firmament, 65357500 miles.

The thickneſſe of the Moons round, is of 99504 miles.

Mercury's round is of 334208 miles.

That

That of *Venus*, of 3097251 miles.

That of the *Sun*, 32500 miles.

That of *Mars*, 248820000 miles.

That of *Jupiter*, 17969250 miles.

That of *Saturn*, 18541250 miles.

That of the Firmament, 95357500 miles.

The diameter of the Earth is of ten thousand and eight hundred miles; But *Cardanus* saith, of 10000 miles.

Its circumference is of 32400 miles; and according to *Cardanus*, of 31000 miles and a half.

Its semidiameter, or half diameter, is of 5000 miles.

These things being thus, is it not very like, that so huge and vaste bodies, so distant one from the other, should hide and contain in themselves something, as well as the Earth? at least those that move, and are Planets, as It is; and that turn round the bright body of the Sun, which communicates his light to them all?

Chap. XV.

Wherein the plurality of Worlds is proved, by a Reason drawn from the colour of the Stars.

IF we see, and punctually discern, not onely with *Jacob's*

cob's staffe, but also with our own sight, without the help of any instrument, a great diversity in the Stars in their bigneſſe, colour, light; and other circumstances; Shall we not say, That those various colours do testifie their various nature, and their bodily mixtures; and that they may consequently be bodies, as well as the Earth?

Chap. XVI.

Proving the same, because that there is nothing empty nor vain in nature.

WE cannot remark any thing empty in the whole

whole Nature; this passes for a sure Maxim: therefore did *Hermes* in his *Asclepe* say, That all the parts of the World are very full, the whole World is full of Globes or Stars; these Stars, and especially the Earth which we inhabit, is filled with Seas, Rivers, four-footed Beasts, Men, Birds, Minerals; the waters are filled with Fishes; these things have yet in themselves, and unto their very Center, so great a variety, that their anatomy drawes us to admiration: In a word, we may lose our selves in the subdividing of them; And why may not the Stars be so too, seeing that, as it hath already

been

been proved in the foregoing Chapter, we may see and observe in them some certain variety? especially in the Moon, where Mountains and Waters evidently appear, and may very well be discerned with a good Prospective glasse; with which Instrument is a notable Mountain discerned in *Mars*.

Chap.

Chap. XVII.

Proving the plurality of Worlds, by the plurality of Men, and because things above, are as things below.

GReat *Mercurius Trismegistus*, who for his eximious Learning, hath obtained the name of *Thrice most Great*, hath left us this notable Aphorism, That things below, are as things above; and, *vice versa*, those above, as them below; the meaning is, That this World is an example to us, without any need to go out of it, for to know those things that

that role over our head; and God hath even bestowed upon us sufficient capacity to draw reason from every thing; If we consider our own selves, we shall see by a generall approbation, that Man is a little World; so that Men being infinite in number, who are *Microcosms*; likewise ought the *Macrocosms* or great Worlds, to be many, after whose Idea's and images he is built; as may appear by the conformity of one with the other: But here might we speak of this conformity, had it not been fully described by many Philosophers of note; therefore omitting it, we shall proceed.

Chap.

Chap. XVIII.

Wherein the same is proved, by some Reasons taken from God's Power, from Man's Reason, from hence, That there is nothing onely one, and such other considerations.

I Shall not fear to say, That those who deny this exquisite Opinion, seem to be offended against themselves, to accuse God of impotency, and their own Reason of falshood: and that I may bring them to passe sentence of condemnation by another mouth then mine, I would have

have them to hearken to great *Michael Montanus*, who is esteemed one of the wisest, and reasonablest Men of his Age; he hath these words in his Apologie for *Raymond* of *Sebone*;

Thy Reason hath in nothing else more likely truth and foundation, then in that; wherein it perswades thee of the plurality of Worlds.

Terramque et Solem Lunamq; et cætera quæ sunt
Non esse unica sed numero magis innumerabilia.

That is to say, The Earth, the Sun, and the Moon, are not one alone, but many in number.

The

The rarest spirits of former Ages did believe, yea, even some of our Age, constrained to it by humane reason, because that in this building and fabrick that we see, there is nothing alone and one.

Cùm, in summa, res nulla sit una,
Unica quæ gignatur, et unica
solaque crescat.

That is to say,

Being there is nothing that is onely one in this World, that is engendred alone, nor in the Sea, nor in the Earth.

And every species is multiplyed in some reasonable number; whence it appears, that it's not likely that God hath

hath formed this work alone, without ſome more, and that all the matter of this form was ſpent in this Individual alone.

Quare etiam atque etiam tales fateare neceſſe eſt,
Eſſe alios alibi congreſſus materiai:
Qualis hic eſt avido complexu quem tenet æther.

Wherefore it muſt be confeſſed, that ſome where elſe there are heaps of matter, as that which is wrapt up in this our Aire.

Eſpecially, if it be a living creature, as by its motions we may be perſwaded it is, as *Plato* aſſerts it; and many of

of the Learned of our time either do confirm it, or dare not deny it.

Now if there be many Worlds, as *Democritus*, and almost all the Philosophers did judge, what do we know, whether the principles and rules of this do concern particularly the others? perhaps they may have another face and policy; but being all things are divers in this, yea in a small distance, we may believe, that the other worlds ought to be divers and various; For why should God, who is Almighty, have limited and restrained his power and virtue?

Chap.

Chap. XIX.

By what reason, the world may be proved to have a Soul.

WHereas *Montanus* hath here above spoken of the Soul of the World, It will be meet for our present subject, to demonstrate those Arguments by which this Opinion may be proved, that he may not be judged to have incongruously spoken of it, it being also advantageous for our Discourse.

If the World is a reasonable Creature, as divers Learned Persons have proved, It may not be strange and ridiculous to believe,

That

That the Earth hath a motion, nor consequently that it is a moving Star or Planet inhabited, and that so likewise all the others may be inhabited: Now if the Earth turns and moves; is it not also needfull to grant, that that whereby it is moved, is as it were, its soul moving it, as our soul moves our body? Some have thought, that God is the soul of the World, and that he is in the World, as the soul in man's body; that is to say, all in all, and all in each part; and that therefore the World might have a soul, and be called a living creature, great and round, and as *Montanus* saith, Is it not more likely, that

that this great body by us called the World, is a thing quite contrary then we esteem? The *Pythagorians*, *Xenophon*, *Plato*, and all his Schollers, have taught and believed this opinion; and since them *Marsilius Ficinus*, and *Hierome Fracastor*, most renowned Doctors of Physick; and in our Age *Campanella*, who alledges *Seneca*, *Origenes*, *Eusebius*, and *Gregorius Nazianzenus*, as witnesses of it.

But if any one should say, That the World cannot be a living creature, seeing it hath nor feet, nor eyes, nor hands, nor any such member as living creatures have; I beseech him to consider, that it's

its not requisite it should have some feets, being it treads not upon the other living creatures; nor eyes, nor ears, because it can neither see nor hear any thing out of it self; but the hands of this living Creature, as those that in it are contained, and we have, are its beams and virtues; its eyes, the Stars; its bloud, the Waters; and so hath other things besides, consonant and correspondent to our members, without having need of the same as we have; Are there not strange and monstrous beasts in respect of us, and yet live well, and are perfect in their kind, doing well enough without such members as we have, though

though they have not the same situation with us. How many Fishes is there, that have their mouth in the belly, the eyes and other members in extravagant places? Some Creatures have the gall in their head, and some in their tail; yea, there are some Men, whose head is in their bosome; some likewise may be formed, so as we cannot comprehend nor know how. Its motion sets forth its life; and the flux and reflux of the waters its breath and respiration. There are divers such Reasons to prove the same: but I shall desire the curious Reader to peruse *Plato*, *Sextus*, *Empiricus*, *Ficus*, *Macrobius*, *Campanella*,

Campanella, and others, to avoid tediousnesse.

Chap. XX.

Proving the multiplicity of Worlds, by a Reason drawn from infinite number of causes, and by the spots of the Moon.

THe spots in the Moon, touching which *Plutarch* hath made a whole Discourse, whereof we might here alledge divers Observations; are to us a sufficient testimony, that the Moon is as the Earth, filled with Rivers and Seas, Mountains, Valleys,

Valleys, Plains, and other such things; for its Spots are not the shadow of the Earth, as some have thought; considering, that they never change their shape, as they would do, according unto the divers parts of the Earth, to whom the Moon by its motion would answer, and having no conformity at all with the Earth, nor with the Sea; and lastly, because that our sight holpen by the Prospective-glasses, observes in it some Seas, and the tops of divers Mountains, and such like remarkable things, whereof the Maps and figures may be seen in *Hevelius*, *Argolius*, and several others, and in our Book *de Telescopio*.

These Spots shew, that the Moon is partaker of the Elementary and Terrestriall nature, and consequently of the rest of the Elements. This did move *Plato* to say, That the Stars are composed of fire and earth, by reason of their splendour, and of their great and lumpish body.

This plurality of Worlds may again be proved by the variety of the causes that compose it, and by the divers combinations that may thence be made; which is the argument used by *Morodorus* in *Plutarch*, in his book of the Philosophers opinion, wherein it's said, That where the causes are, there the effects ought to be also; and

the

the causes of the World being a great many, so also ought the Worlds to be many; the causes of the world are the four Elements, and others that may yet be unknown to us, or the infinite number of *Democritus* Atomes; unlesse we had rather say, That its God, who being infinite, so likewise hath created an infinite not onely of Worlds, but of all things: And indeed, as the same Philosopher saith, it would be a sad spectacle, if there were but an ear of corn in a great field; the same would it be of Heaven, if it were true, that there is no more Earth but one.

Chap. XXI.

wherein is the same proved, by certain Reasons drawn from Galileus's *Observations, and others; as of the Stars of* Jupiter, *and of the Spots in the* Sun.

THat great *Galileus*, who seemed onely to be in the World for to resolve the doubts in Astrologie, hath discovered with his admirable invention of Prospective-glasses, which immortalize his name, by the discovery of what is contained in the Stars; he is the first who hath directed his *Telescopes* or Pro-

Prospective-glasses towards Heaven, and by help of them, that the milky line were small Stars, which by reason of their proximity and great number, do confound their light: he also hath discovered the Moons superficies, not smooth, but rugged, and full of risings of Hills, and hollowness of Valleys.

He also hath observed, that the Star *Venus* doth imitate the course of the Moon, being now full, then half, then in the first quarter as a sithe; and hath observed the perspicuous change of bigness in *Venus* and *Mars*'s diameters; things of great concernment and note, for the

theories of *Copernicus* and *Tycho Brahe.*

He hath ashamed the *Sun*, discovering in him those Spots, which for so many Ages he had buried and hid in his bright obscurity, and hath discerned, that those Spots were not fixed, and alwayes lasting, as those in the Moon, but that they disappear & appear again, turning round the Sun: he hath also discovered four new Planets, that had not yet bin observed by some of the ancient Astrologers, which he hath called the Planets of *Medicis*, in favour of his Prince; these Planets move onely round about *Jupiter*, which hath induced

induced some to believe, that *Jupiter* was another world, or another *Sun*, round about which other Planets do run, as round about that which inlightens us.

He hath farther observed, that the Planet *Saturn* hath three bodies, having two more at his sides; and that the Planet *Jupiter* is besported with girdles or Zones that do girth it; the which may plainly and perspicuously be seen by those Telescopes or Prospectives, admirably well made by *Torricelli* the *Florentine*. These are those rare Observations of that illustrious Person, who though but little in body, yet so great in ingenuity,

and acuity of spirit, that all the World hath suffered by the losse of him; He became blind, by reason of his too great propensity and labour in these Observations; and he who had in these things given light to all this world, could not enjoy the light, nor his Invention.

Fascarius adds to all these Observations, that *Venus* hath been seen with three bodies, as well as *Saturn*, and that *Jupiter* hath 4. bodies; But *Gassendus Fontana, Neapolitan*, hath now the excellentest Telescope in the world, with which he hath seen the four Planets which are adjacent to *Jupiter* as four Moons; two about *Saturn*, which make a

figure

figure of a pot handle at each side of it. In the midst of *Mars*, a little Globe, at his brimmes a darkish circle, and about *Venus* two Moons or Stars.

Chap. XXII.

Proving the Plurality of Worlds, by a Reason taken from the Clouds, and the waters above in Heaven.

With the Prospective-glasse we may see some Clouds flying round about the Sun, which can arise but from the Moon, from other Stars, or from the Sun it self, because they be beyond the Region of the Meteors:

teors: Now if the Stars ingender clouds, they have water within themselves; but if the Element of water is in them, the Element of earth and the rest have as great priviledge to be in them, as it. Now that there is water in them, the first Chapter of *Genesis* proves it clearly, when he saith, *Then God said, Let there be a Firmament in the midst of the waters, and let it divide the waters from the waters; And God made the Firmament, and divided the waters which were under the Firmament, from the waters which were above the Firmament; & he called the Firmament, Heaven, and the waters under the Firmament, Seas.* Esdras in Chap. 6.

of his ſecond Book, ſaith the ſame, in theſe terms, *Thou madeſt the ſpirit of the Firmament, and commandedſt it to part aſunder, and to make a diviſion betwixt the waters, that the one part might go up, and the other remain beneath.* Where are theſe waters above, I beſeech you, if they are not in the Stars? For it's a very weak Reaſon to ſay, That they are in the Clouds; becauſe that, beſides that they could not contain the Seas, Its ſaid in the ſecond Chapter of *Geneſis*, that *God had not cauſed it to rain upon the Earth, but there went up a miſt from the Earth, and watered the whole face of the Earth*; and ſo conſequently there was no vapour raiſed

up

up to form them: and what should have raised them, seeing there was yet no Sun created to light the World?

Let us then lift up our eyes to Heaven, and, as the new *Gymnosophists*, who daily contemplated the Sun, let us observe in them those new Worlds, wherewith it is wonderfully enriched, which are divers and various in bigneſſe, light, and other qualities; let us not be as poor ſimple Countrey fellowes, who having ſeen no farther then the corner of their own chimney, cannot apprehend, that there can be any Town or City bigger then their Village; but let us raiſe our ſpirits to the contemplation

of

of the remoteſt and higheſt things that are; thereby ennobling our ſelves, though it be a very high attempt. O how happy is that man, who when he pleaſeth, can ſpiritually looſen his Soul, and by his exquiſite Meditations riſe up to the meditation and contemplation of theſe Worlds! When once we are well acquainted with it, and freed from all Preoccupation, nothing can be found ſweeter, pleaſanter, and more conſonant to truth.

What Parents and particular priviledges have they, who believe the contrary, that we ſhould adhere to them; and our belief ſhould be ruled by them, as if it were

under

under their commands? Men feign and forge to us five Zones in Heaven, and such other things, that are nothing but dreams and foolish fancies, as if they had been there above to see it. We may say the same to them, as *Diogenes* said to such other creatures, How long is it since thou camest from Heaven? It's then as lawful for us to establish new Maxims, as for them; and to believe in the strength of our reason, what we here have attempted, and what others say with reason, or appearance of truth. O that Nature would once open us her bosome, and plainly shew us the direction and Government of its motion,

with

with what is contained in those great and vaste bodies, which sparkle and glister in Heaven; What abuses and grosse mistakes should we find in all Sciences?

Chap. XXIII.

wherein the same is proved, by an Argument taken from the place where the Clouds stay without going farther.

WE have here above spoken of the Clouds, and thence have drawn an Argument to assert this our opinion; we may yet draw this from them, *viz.* that the Clouds and vapours being light,

light ſhould aſcend without limitation, untill that they were loſt from our ſight, if there were not ſome other terreſtrial Globes in Heaven, nor any other attraction then that of the Center of the Earth; but we may obſerve even in the hotteſt of Summer, that the Clouds do not aſcend above 3. miles, and the ſtrongeſt vapours that are, not above 30 miles; whence we muſt infer, that they aſcend unto the limit of the activity and attraction of the center of the Earth, not being able to go beyond, becauſe it would be to bend downward, *viz.* towards the Center of ſome other terreſtriall Globe. But, that I may

may better be understood, it's to be observed, that as the Loadstone hath a certain inward virtue to draw iron, or to move the Needle of the Sea-compasse unto such a distance, and no farther; so likewise the Earth, which by the opinion of some, is a great Loadstone, whose circumference and activity is extended towards the Moon, unto such a certain heighth; and the other Stars also have such like circumference, whereunto their virtue & attraction may reach; Insomuch, that the Clouds having attained unto that distance which makes a middle between us and the Moon, there they are stayed, not being suffered to go beyond

yond it, because then they would descend towards the Moon, or some other Stars, which would be contrary to their nature, which is to rise upward still; so that if a ponderous body as a stone being cast up, could go beyond the Earth's attractive point, it would not fall back upon the Earth, but upon that Star, whose attractive Center should reach unto that place whither the stone was cast; therefore hath *Bacon* said in his Book *de progressu Scientiarum*, that *Gilbert* did not doubt incongruously, That the bodies of weight and ponderosity, being at a far distance from the Earth, would by little and little

little forsake their motion towards things below.

Chap. XXIV.

Containing a Reason, drawn from the Bird of Paradise.

THe new World discovered by our Fathers amongst those infinite riches and rare things it communicates to us, makes us partakers of a Bird, called by the Indians, *Manucodiata*, that is to say, the Bird of God, or of Paradise; This Bird is so beautiful, that no one in the Earth is to be compared to it; its figure is of so rare a form, and so extraordinary, that

that never the like hath been found; for it hath neither feet nor wings, but is clothed with a skin of feathers, made otherwise then that of other birds; it's not found but dead either upon the Earth, or in the Sea, no body ever saw its eggs, nor its nest; and it's asserted, that it lives by the Air; this Bird never being found upon Earth, is it not consonant to Reason, that it may come from some other Starre, where it lives and breeds, and that having flown higher, and beyond the attractive Center of that earth or Star where he lived; he dyeth by changing his Ayr, into that which is not proper and natural, and dying,

falls

falls upon this Earth. Now if birds be found in the Stars, there also may other living Creatures be, having all the same right of habitation. And grant, that what some object, be true, that it hath feet, but that they are very short, or that its feet are cut, that it may appear the rarer, yet it hinders not the consequence drawn from it; provided, that the other circumstances of its nature be true; for if it hath feet, it must be understood of some of its species only; for *Aldrovandus* mentions five or six sorts of them, whereof some have feet, and some none.

Chap.

Chap. XXV.

Wherein is alledged, an Argument taken from the Eclipses.

BEfore the Creation of this whole Fabrick, God did inlighten himself, and contemplate himself, he was a sealed Book, which at length is opened, and hath set forth to the view, that which remained in Himself; wherefore the whole World is nothing else, then an evident image, an Idea of his hidden God-head, he is through it all, as our soul is throughout all our body, and by

by his will, encompasses all the motions of the spheres, having spread through them all the Aires, as a scrowl; which folding it self away at the last day, shall be reduced to its former Silence, or rather to Nothing.

This wonderful order, thus by him established, may be seen in the constant and unchangeable course of the Planets, upon which the Astrologians make some certain Almanacks for many years together, and foretell the eclipses of Ages to come, without missing a moment of time.

These Stars being all of one and the same nature, do eclipse one another; the

Earth eclipses the Moon, the Moon the Sun, and so all the rest, if their small body is not overcome by the bigness of those they intend to darken; as its testified by *Averroe's* Observation, who hath seen *Mercury* in the center of the Sun, which seemed to grow in it; its light, if it hath any, being covered and put out.

Now from these Eclipses, or want of light in the Stars, we may draw this strong Reason for the assertion of our Position, for it sheweth and verifieth, that they are of an earthly nature, and that their light is borrowed; the Moon appears black, when the Earth hinders it to receive

light

light from the Sun: and divers Philosophers have believed, that all the Stars do borrow their light of the Sun; they are then obscure, and thick of their own nature, and consequently earthy, and may have such variety and diversity as the Earth, *viz.* Men, Beasts, Plants, and whatsoever is seen here amongst us, and the *Pythagorians* did believe, and to which *Copernicus* agreeth.

Chap. XXVI.

Proving the same, because otherwise it were to make God to act by necessity.

IF there were not many Worlds in this whole Fabrick, God could not act so powerfully and freely, but that by some certain necessity and constraint; which would be a great impiety and blasphemy even to imagine it: for God could assuredly, not onely have made other Worlds, but also much more perfect then this; for his power is neither shortened, nor exhausted, neither the matter,

matter, which he could create of nothing, as well as that of this our Earth; therefore as he hath created this World, could he not also have created others?

Chap. XXVII.

How could we see the Earth, if we were far distant from it?

Some may ask, If the Planets are so many Earths, and the Earth a Planet, how could we see the Earth, if we were far remote from it? *Clavius* in his Commentary upon *Sacroboscus*, hath endeavoured some suppositions

upon this question, and hath found, that if any one were in the Globe of the Moon, and should look towards the Earth, it would appear to him three times bigger then the Moon appears to us, and somewhat more; and if a man were in the Globe of the Sun, it would appear to him twice bigger then *Venus* seems to us; and in the Globe of *Mars*, thence it would appear lightsome, and would seem to be of the bigness of one of the Stars of the sixth proportion; and if he were in the highest heavens, he could not see it at all; And this is (saith he) the Astrologers common opinion.

Chap.

Chap. XXVIII.

Of the number of the Worlds.

IT may also be asked, What number of Worlds there is? but though it is a thing not certainly known, considering the infinite number of Stars to us perspicuous, besides those that we cannot see by reason of our eyes weakness.

Yet I shall here alledge the Judgment of some Authors upon this question; *Baruck* the Philosopher, and *Clemens* a disciple of the Apostles, as *Origen* saith, do mention seven; perhaps meaning

ing the seven Planets. An ancient Author, according to *Plutarch* in his book, touching the ceasing of miracles, did believe, that there were an hundred and eighty nine Worlds disposed in a triangle, every side containing sixty three. *Petro* of *Sicily* thought the same thing touching the plurality of Worlds. But the Thalmudists going beyond, say, that there are nineteen thousand; and *Democritus* did believe, that they were infinite, and innumerable.

Chap.

Chap. XXIX.

Touching divers ancient Philosophers, who have believed the plurality of worlds.

Pythagoras, who first called this Fabrick, Worlds, is also one of the chiefest, who believed the plurality of them, and hath had many disciples and Citators, who have continued to establish and maintain this assertion; for *Socrates* hath publickly asserted the Worlds to be infinite; so did also his disciple *Archelaus*, who perswaded it also to *Xenophanes* the *Colophian*; who also did asserr,

That there are many Moons and Suns in the world.

This same Axiome was believed by *Melissem* of *Samia*, *Parmenides*'s disciple; as also by his School-fellow *Zeno* of *Elis*, and his disciple *Lucippus* of *Elis* also. *Item*, by *Democritus* of *Miletum*, *Pythagoras*'s hearer, who saith, That in these Worlds the Stars are more beautifull and bright, which I think may be according to their proximity. By reason of which opinion, that King of the *Abderitanes* was esteemed by his ignorant people, to be out of his wits, and thereupon they sent for *Hippocrates* to cure him of his disease; but *Hippocrates* found him very well

well in his mind, and ſaid nothing againſt his opinion; which moved *Democritus* perpetually to laugh at them who were ignorant of the ſame. *Joubertus*, who hath compoſed a book concerning laughter, in it hath ſet down *Hippocrates*'s letter upon this ſubject.

Diogenes of *Apollonia*, *Anaximenes*'s diſciple, together with *Seleucus*, hath alſo pronounced their aſſertion touching the plurality of the worlds.

Orpheus, *Origines*, and *Baruck* the Philoſopher, *Anaxagoras*, and many Stoicks more, do avouch the ſame; *Plinius* alſo ſeems to have been of this opinion; but

Anaxi-

Anaximander, *Anaximenes*, *Epicurus*, and others, following *Francis* I. *Picus Mirandulanus*, have fully asserted it.

Mahomet, who though an Infidel, wanted not wit and knowledg to establish his belief, did believe the same thing, and in his Alcoran mentions several Earths and Seas to be in Heaven and the four Elements; and all that is amongst us to be in every one of the Stars.

Epicurus did say, That these Worlds were some of them without Sun or Moon, and some had greater then those that lighten us; and that others had divers Suns, and that some of them were without

without living creatures in them, without Plants, and without all moisture, and that at the same that things are thus in our worlds as we see them, so also are they in divers other worlds; but had he seen how the *Indians* and we agree in severall things, he would questionlesse have believed it more constantly.

Icetes the *Pythagorian*, together with *Philolaus*, did believe there were two Earths opposite one to the other; and *Picus Mirandula* was forced to say, That he thought that the Moon was an Earth like unto ours; herein conforming himself to those *Pythagorians*, who sometimes did call

our

our Earth, Moon; and the Moon, Earth. *Francastor*, Physitian at *Zerona* (following *Eudoxus* and *Calisius*'s Judgment) together with divers others, whom for brevity sake I shall omit, did also believe the same.

But whereas so many Philosophers have asserted the Position of this opinion; it will be answered, That I am not the first author of it: To this I answer, That it's sufficient for me to renew it, and plainly professe it, the which hitherto was not yet publickly practised.

Chap.

Chap. XXX.

Of those things that are in the Moon, and other Planets.

THough the Ancients had not the help of Prospective-glasses, as we have, wherewith we see as new Linxes, the Seas, the Mountains, and other things which are in the Moon; yet they did inquire and speak of things more particular that are in the Stars; as the *Pythagorians* and *Orpheus*, who did believe that the Moon was not onely of the colour of the Earth, but that it contained Men, Beasts, and Trees,

Trees, 15 times bigger then we, or 50 times bigger, as *Herodotus*, who also asserts, that in it are Towns and Cities. *Xenophanes* did also think, that there are men within the body of the Moon; *Anaxagoras* and *Democritus* have also said, That in it are contained Mountains, Valleys, and Fields.

Lucianus in his book of true history, & *Aristoteles*, have both mentioned some particularities of what is in the Moon; but we shall not take notice what the first saith, because he relates it as a fable; though for the composing of his work, he hath made use of a great deal of those ancient Philosophers opinions.

Plutarch

Plutarch in his discourse of the Moon, reasons *pro* and *con*, whether the Moon is inhabited? and whether it is an Earth as ours, and inclines sometimes to one, sometimes to the other; but at length it seems that he did believe it, because he answers to divers objections that might be alledged against this opinion.

Bacon desires us seriously to cast our eyes upon the opinions of *Pythagoras*, *Philolaus*, *Xenophanes*, *Anaxagoras*, *Parmenides*, *Lucippus*, and of other ancient Philosophers, indicating to us the truth thereof, and wishes, that some body would compose a book of their opinions; this present discourse

discourse is part of it; and therefore do we in some measure satisfie the desire of so rare a Person.

Lucretius, whom we have here above quoted, did confidently believe the same, and hath testified it in divers places of his works, and especially in these Verses, besides those already alledged in the 18. Chapter.

Esse alios alibi terrarum in partibus orbes,
Et varias hominum gentes et sæcla ferarum,
Hoc accedit, uti in summa res nulla sit una,
Unica quæ gignatur et unica solaque crescat.

That

That is to say,

There are other new Worlds, wherein is variety of Men and Beasts, and of all other living creatures, because that there is nothing groweth single and alone in this World, nor in the earth, nor in the Sea. And in another place,

Præterea cùm materies est multa parata,
Cùm loci est præstò, nec res nec causa moratur
Ulla, geri debet nimirum et confitier res.

Whereas there is store of matter, and that the causes and

and the places do suffice, this therefore ought to be declared, and men must needs grant it so to be.

Paracelsus hath said, That there are in Heaven some certain men called *Tortelii* and *Penates*, for whom Christ did not die, of whom some are without Soul, and some not composed of the four Elements; he yet names others, never mentioned but by him.

Some of the Stoicks were of opinion, not onely that there are people in the Moon, but also in the body of the Sun; And *Campanella* saith, That those lively and bright habitations may have Inhabitants, perhaps more wise and

and learned then we, and better informed in those things that to us are incomprehensible.

But *Galileus*, who in our Age hath perspicuously seen into the Moon, hath observed, That it may be inhabited, seeing that there are Mountains in it, &c. for those parts in it that are the Plains and Valleys are obscure and dark, and the Mountains are bright and clear. For this cause have some said, That the Stars do not shine, but by reason of their irregularity, asserting, That we could not see them, if they had not Mountains for to reflect and reverberate the light of the Sun.

Chap.

Chap. XXXI.

Containing the Solution of some Objections that may be made against this Paradox of the World's Plurality.

BUt some may say, There cannot be such Men as we, in the Starres; for they could not live there, because men are divers, even after the diversity of Countreys; and those who ascend that high Mount *Piracaca* in the *Indies*, dye there by reason of the too subtile ayr of the place. To which I answer, That those men must needs be different from us, or indued with

with more robuſt and ſtrong bodies then we; or ſo well proportioned in the mixture of the Elements, that that Ayr cannot be obnoxious and hurtful to them; but that God hath ſo formed them, that they may well live where he hath placed them, but no where elſe.

And if we had never ſeen or heard of the Sea, we could not be perſwaded, that Fiſhes could live in ſalt-water, and that therein they could breed and grow for our food; nor that thoſe Countreys of the burning and frozen Zones, could be inhabited: So muſt we believe, that God hath by prevention of inconvenience, ordered

ordered all things for the best.

Here also might be objected, the Incommodities and incongruences that might befall the Inhabitants of the Moon, *viz.* the Meteors as the Clouds, and other which would offend them, and would hinder Plants to grow therein.

We answer to this, That those Meteors are far enough from it, and that rather they are lesse molested by them then we; for *Galileus* did see with the telescope, that it doth not rain upon the Earth of the Moon.

But it may be replyed, How then do the plants grow?

To

To which I answer, That they may grow in it, not only by reason of the Moon's natural humidity and moisture, but also by the inundations of its Rivers; as in *Egypt*, where likewise no rain is seen; I say farther, That those Inhabitants of the Moon have no more ground to alledge these Objections, being that when they look upon the Earth, through the mists and clouds that incompass it, they might doubt whether any creatures could be contained in it.

But hitherto we have answered none but weake objections. Now come we to that with which our Opponents do arm themselves

chiefly, which is that of the Prince of the *Aristoteliſts*, who as the *Otthomans* aymed to ſlay all his brothers, that he might reign more ſecurely, *viz.* to beat down and ſuppreſſe all opinions contrary to his; now this is his argument;

If there were many worlds, the earth of thoſe worlds would move towards our Earth; or ours towards that of the other Worlds; and ſo the other Elements of the other worlds would reach ours, and ſo there would be nothing but a great tumult and Chaos.

This Argument is ſo weak, that *Magirus* is conſtrained to ſpeak in theſe terms when he

he alledges it, not being himself able to find others, because he maintains not the truth; All these Reasons, (saith he) and such like Philosophick Arguments, cannot perspicuously demonstrate, that there is but one World; and *Charles Rapineus* speaks thus, That it can but weakly be so perswaded.

Aristoteles could not comprehend what we have above said, *viz.* That each world hath its center, whereunto tend those heavy bodies that are in its sphere; But he arguments upon a false foundation, making the Earth to be the Center of all the worlds, and allotting but one center for all; his Argument

would be good, if his ground were good: for what he saith was true, it would be requisite that all heavy and ponderous things should tend towards our Center; but there being many, they also go into divers Centers; for each Star hath its center that upholds it, and though it be of a ponderous nature, yet is it light, in it self. Having thus answered, and so plainly and fully resolved the Objection of *Aristoteles*, the grand Prince of Philosophers, what may they expect who have not such pregnant Objections as his.

Chap.

Chap. XXXII.

Continuing the Solution of divers Philosophers Objections against the Plurality of worlds.

THese following Arguments are yet objected; First, That whereas there is but one principle and first Mover, or but one God and first cause, and that the world ought to answer in likeneſſe to its Architype, there also ought to be but one World. But we have here above shewed the contrary, because that God is infinite, so also

ought the Worlds to be infinite.

For a second Argument, it's objected, That if there were more then one World, the Divine Scriptures would have communicated it to us; but speaking but of one onely, it's not likely there should be any more.

To this I answer, That the holy Scripture speaks clearly of none but of ours; though yet in severall places it agreeth in the plurality of Worlds, as we shall hereafter demonstrate; and that it speaks after the manner of men, of all heavenly things, condescending to our weakness, and to the common opinion; as when it saith,

That

That the Sun and Moon are the great Lights, and yet the Moon is one of the ſmalleſt Stars; and there are ſome others that are as bigg as the Sun, as *Canopus* Starre, and others, and an infinite number bigger then the Moon; Likewiſe the Scripture ſaith, That God is angry, and doth repent, though he is immutable and unchangeable; and therefore might the Scripture do the like concerning the motion of the Earth, and the plurality of Worlds.

For a third Argument, *Plato* ſpeaks thus; The matter requiſite for the compoſition of the world is but one, and heaped up together into one lump or body alone, and

the Heaven contains within it self all the simple bodies, so that no part of the matter can remain, for therewith to compose and frame other Worlds.

To this I answer, That it's not necessary that all the matter be exhausted and spent in the Creation of this our Earth alone, yea rather in the Creation of the whole Fabrick; but and if it had been all spent at the creation alone of this our Earth, God could yet create some new: And last of all, *concedo totum*, I grant the whole Argument, it proving nothing against my assertion; for I comprehend all the Worlds or Earths to be in Heaven.

Plato

Plato ſaith farther againſt this opinion, That the World would be imperfect, if it ſhould not contain all; and ſecondly, would not be like its pattern, if it were not ſingle and onely one, and that it would not be incorruptible, if there was any thing out of it.

But we have already anſwered the Objection touching Uniry; where we have diſcovered, That God being infinite, there muſt alſo be infinite Worlds: for as *Sextus Empiricus* ſaith, There is nothing one alone, of all whatſoever is numbred in the World. And as for the laſt, *Plutarch* anſwers it, ſaying thus, That it hinders not the

World's perfection, that there are other Worlds besides; for man is perfect, and yet contains not every thing. And to this answer I adde, That by this word *World*, *Plato* did understand the whole Fabrick of all these Earths or Worlds which make up but one whole world; his Arguments cannot at all overthrow my Position.

Timplerus forms yet this Argument, If there were divers Worlds, they would have been made in vain, and to no purpose, because no use of them can be shewed. This his Reason is so weak, that it will suffice to say, for to confute it, That though we

may

may not know for what use they are made, yet they are not made for nothing; for by this same reason, the *Indies*, from whence we receive great advantage and profit, and the Northern Countreys that yet are unknown to us, would also have been created in vain.

Again, there are some who object, That if the Stars were inhabited, they would have need of the influence of other Stars and Heavens, *usque ad infinitum*, without number.

To this I answer, That I am not much perswaded, that the Starres are advantageous to us, the Sun and Moon excepted; it's not possible,

ſible, that the Stars communicate and ſerve one another mutually, and therefore there is no need of an infinite number of Heavens.

Laſt of all, *Zabarella* argumenta thus, If there were other Worlds, what in them ſhould be contained, would be either like to what is in this our World, or differing from it; if it were like it, in vain would individuals be multiplyed; if differing, it could not be found out how it's diſpoſed.

To this Objection I anſwer, That men and other things in the *Indies*, would alſo have been created in vain, if his Reaſon was valid; and that though we

knew

knew not what was in those new Lands and Countreys, yet it was in them notwithstanding; so likewise though we be ignorant of what is in the other Worlds, yet this our ignorance excludes not their being.

Chap. XXXIII.

Answering Pacius's *Argument against this Assertion.*

IN this whole Fabrick considered at large, may be observed divers Worlds contained within it; as the individuals under the species; but *Pacius* labours to oppose this Position thus; That the World,

World, such as it is, comprehends all, and that all the matter was spent in the composition of it, and that therefore there can be no other bodies out of it; for if there were any, they would be either simple, or composed; if simple, it would be the Heaven or the Elements: But they cannot be the Heaven, considering it changes not fully its place, but turns round upon it self: Nor likewise can it be an Element, because it would be beyond nature; nor also a mixt body, because that if there be not some simple bodies, there can be no mixt ones.

To which I answer, That, as I have already said, by

worlds,

worlds, is to be understood Earths onely; and by the general word of *World*, or *whole Fabrick*, are by me understood, All the things of the whole Fabrick, in the frame and composition of which, I yield, that all the matter was spent and employed, and that out of them there is no other Universe or generall World.

Chap.

Chap. XXXIV.

Answering Melancthon's *Objections, together with others, who say, That this Doctrine tends to Introduce new Maxims against Religion.*

But there may yet some stand up, and say with *Melancthon*, That God ceased from creating, and rested himself; but *Moses* in the second of *Genesis* speaks, and meaneth onely the Creation of this our World: and truly it's more consonant, that some end, and others be created of new; as *Empedocles* did believe it, together with

Demo-

Democritus; God hath limited his power, and he is ſtill the ſame for to create again, as he was afore: and as it's ſaid in the Book of *wiſdome*, ch. 11. v. 18. he wanted not means to create of new unknown wild beaſts: Therefore both this and the other Arguments alledged by *Melanthon*, are weak againſt this our Poſition, which he himſelf being forced to confeſſe, he ſaith in his natural Phyſicks, that though his arguments do not fully conclude, yet they muſt be conſidered and weighed, leſt that if we believe that there are other worlds, we alſo ſhould believe other Religions, and other natures of Men.

For

For my part, I see no necessity, that because there are more Worlds, there must also be more Religions; the increase of this World, through the discovery of the *Indies*, hath not caused any new Religion; and it's very unlike from being capable of introducing Heresie and Atheism; I confidently believe, that this admirable order of the World, which disperses the confusions and chaos, which by reason of mens ignorance do yet reign, will even make the greatest Atheists of this world to confesse, That they cannot have their originall but from God alone, who is the Soveraign Creator of all things.

Malanchon.

Melanthon saith farther, That if there were divers Worlds, it would be requisite, that Jesus Christ should suffer death several times for to save them all: but what do we know, whether those Men in the Stars are better then those that are in this world, whereof Satan is called the Prince, and where he abides; for which cause St. *John* saith in Chap. 12. & v. 12. of the *Revelations*, *Therefore rejoyce ye Heavens, and ye that dwell in them; wo to the Inhabitants of the Earth, and of the Sea, for the Devil is come down unto you.*

And though we should certainly know, that those men in the Starres have need of

of ſalvation, God hath ſo many means and wayes, to us unknown, for to ſave them, and to ſatisfie his Juſtice, that we need not inform our ſelves about theſe things, but believe them in faith, captivating our underſtandings; as an ancient Father of the Church hath well ſpoken.

But ſome may obje&, Who is he that will believe it?

To whom I ſhall reply with *Plato*, No wicked man ſhall ever know it; but he onely who ſhall be found worthy of it. Let then thoſe who are unworthy of ſo high and ſublime knowledge, withdraw hence, their groſs ſpirit cannot apprehend the

ſubtilty

subtilty of it; and as Spiders do turn the best food into venome and poyson, they call that which is the true way to the knowledge of God, the high-way to Atheism.

Chap. XXXV.

Proving the Plurality of Worlds, by a Reason drawn from the place of Hell.

SOme scrupulous persons might say, That the Reason of this Chapter seems in something to contradict the doctrine of the Church: But I shall answer him, That if

if any one should endeavour to prove, that there is no Hell, his Opinion should certainly be esteemed erroneous and pernicious; but to do nothing but to establish and confirm it, as I do in this Chapter, and to remark the place where it is, being that the Divines cannot certainly point out the place, I find nothing in it repugnant to Christianity.

Now whereas our bodies are to rise from the dead, for to be rewarded according to their deserts good or evill, and that the damned are in greater number then the saved, the place of Hell must needs be very spatious and great to contain them all,

and

and solid and firm to uphold them; but it cannot be any where but in one of the Stars, and so consequently the Stars may have Inhabitants in them; for it's said, That the Center of the Earth, because it is the center of the World, and the fartheſt place from Heaven; but that I cannot find it needful to place it in the Center of the World, considering that God is equally every where, and that men cannot alienate themselves from him; and also because it's very easie to prove the contrary, not only in that it could not be sufficient to contain in it self all the damned that have been since the Creation, and shall be

be unto the end, nor can be penetrated through by their lumpish bodies; and also because the Earth it self at the day of Judgment must be consumed and done away, as *Esdras* saith in 4th Chapter, and 42 verse of his second book; but also in this, that not the earth, but the Sun is the Center of the worlds; the Sun then by reason of its far distance from the highest Heavens, saith *Foscarinus*, is the true place of Hell, even as its fiery nature required; for the internall habitations seems to perswade it: but I cannot admit this opinion, though that I hold, that Hell must be in one of the Stars; but to seat it in so beautiful a

Star

Star as the Sun is, I cannot consent to it; seeing that the damned Souls cannot merit so good and advantagious an habitation.

But on the contrary, It may seem more plausible and consonant to truth, to seat the Paradise of God in the Sun, according to that Text in the Psalms, *In Sole posuit tabernaculum suum*, God hath placed his Tabernacle in the Sun.

But to prove more certainly, that Hell is not within the Earth, let us but observe, that it was created before the Earth; seeing that the wicked Angels were banished into it before the Creation of the Earth; to which agrees

the first Chapter, and 14 verse of the *Wisdome* of *Salomon*, saying, *The Kingdom of death is not upon the Earth.*

Chap. XXXVI.

Proving the plurality of Worlds, by an Argument drawn from the Seat of Paradise both Celestial, and Terrestrial.

IT may likewise be proved, That Paradise is no where else but in the Stars: Now it is most clear and certain, that it's not this Earth, but a new Earth, wherein is the heavenly *Jerusalem*; which must needs be a solid place, as well as our Earth, that it may

may hold us up, wherein all joy and happinesse shall be; and out of which shall all miseries and torments be banished; this place is prepared of old for men, and what do we know but that we shall be dispersed into severall Stars; doth not our Lord Christ Jesus assure us, *That in his Fathers house are many Mansions*: and *Esdras*, in the 4. chap. & 7. ver. of his second Book, tels us, *How many Springs are above the Firmament, and which are the outgoings of Paradise.* It may be that after we have inhabited this Earth of misery and sorrow, wherein death and infirmity are the wages of our sins, we shall be introduced

into those high Globes wherein we shall live for ever, in fulnesse of happinesse and joy. Is it not said in *Rev.* 2. ver. 28. *To him that overcomes, will I give the morning Star*? And *Job*, in the 38. and 7. v. doth see through Faith, *the Morning Stars singing together, and all the Sons of Men shouting for joy.* This his Vision shall be accomplished, when we shall trample upon these moving wonders, and if by reason of those glorious objects we may remember the things of this Earth, we shall from those vast habitations of glory, look with great contempt and disdain upon this lump of Earth, so highly esteemed

of

of men, and by them divided into so many Regions, and Countrys; and upon that drop of water, by them divided into so many Seas.

May it not also be that the Earthly Paradise, or Garden of *Eden*, out of which *Adam* was driven, was the same place whereunto we shall return; he was driven out of it for his sins, without which he had not tasted death. And now that *Jesus Christ* by his satisfaction to the Father's Justice, hath blotted them out, we shall be therein introduced. *Munster* saith, that many ancient Philosophers did imagine it scituated in a high place, encompassed with fire, adjoyning

ing the Circle of the Moon, and that there are *Elias* and *Enoch*; those Antients were not far from my opinion, seeing the inconveniencies that would follow, if we did fear it in this our World: for it to believe that this Paradise was upon this Earth, it's a very hard thing; for it's of no moment to rely upon the names of the Rivers, and Countreys, that are named in the translation of the Holy Scripture, considering that the Hebrew names in it are not conforme; and that the Translators do yeild, that they have interpreted them but by conjecture, and as nigh as they could guesse.

Again, this Paradise can no more be found on the Earth; nor those Rivers, that are said to be those, whom Moses denominates, do not issue from one and the same spring, as is recorded of those of Paradise. And lastly, it would be a ridiculous thing, to believe that God hath driven his people from that place, which he suffers the Turks, and other Infidels to enjoy, it being that whole Country, apprehended to have been this Earthly Paradise of delight. Before I conclude this Chapter, I will here alledge two notable things.

The first is, that as there is no Book, though never so bad

bad, but there is also some good in it: Neither is there any Religion but hath some good Maxims. The *Chineans*, and the *Turks*, being perswaded by appearances do not at all doubt but that after death, they go to inhabit the World of the Moon.

The second is, that there are already divers bodies in Hell, and also in Paradise. In Hell are those who have yeilded up their bodies to the unclean spirits, and Dæmons; but in Paradise are *Elias* and *Enoch*, which both places to hold up those bodies, must needs be solid, which solidity cannot be but in some Stars, or Star, where

where God doth manifest himself more clearly and visibly. And where are those Rocks of crystal, whereof it's spoken by Moses, whereunto we must desire to go, and there to dwell, exchanging this Valley of misery to the great advantage and comfort of our glorious bodies.

Chap. XXXVII.

Proving the Worlds plurality, by an Answer made by the Daemons.

IF any Creature can know the pure and naked truth of things, and that may decide

cide and resolve this question to the full, certainly the evil spirits may; but how may we enquire of them about it?

Thus it may be done; for it's very certain, that *Pans*, *Sylvanes*, and other gods, who in former Ages did appear to men, were wicked spirits and *Dæmons*, who required worship from men; but a certain *Silenus*, who was one of that nature, suffering *Marsias* to take possession of him, told him, That there were other Worlds, where men lived as old again as we, and were of higher and greater shape and stature.

And in the History of *Faustus* the Magician, 'tis said,

that his ſpirits did walk him amongſt the Starres, for the ſpace of eight dayes, and that he was carried 80000 miles high from us; and that aſcending up very high, he did perceive from far off this Earth, the Cities and other things in it contained; but this his relation is but in brief.

Chap.

Chap. XXXVIII.

Proving the same, by a Reason drawn from the unprofitableness of the light of the Sun, and others.

IF there were no Globes inhabited above the Sun, for what use would that light be which the Sun casts above him? It would be altogether unprofitable and useless, if it was lost in the Air; It is then cast upon those bodies that have need of it, which cannot be any thing else but the Starres, which

which of their nature are dirk and obſcure, and earthly, as the earth that we inhabit; for otherwiſe they would have no need of the Sun's light.

Shall not ſo many Reaſons ſuffice for to overcome that obſtinacy and Preoccupation? Great *Alexander* may break the Ice, and ſhew us the way, who having heard *Anaxarch* the Philoſopher, diſcourſing upon this ſubject matter, did believe him, and fell a weeping, becauſe that there being other Worlds, he had yet conquered but one.

Chap.

Chap. XXXIX.

Proving the same, by the Suns mutual ravishments betwixt the Earth and the Moon; and by their equal qualities, and by other notable Reasons.

WE may say, That the time spoken by *Seneca* in his *Medea*, is come now.

Quæ Typhis novos deteget orbes.

Wherein we may learn things unheard, *viz.* the discovery of new Worlds.

Et

We may say it with better ground then he, seeing he onely spoke of the *Indies*, and we speak of Worlds distinct and separated, and prove it by so many Arguments, as if we could not come to an end of them; for it may yet be proved, that the Earth and the Moon deprive each other mutually of the Sun; which indeed doth testifie their conformity; and that both may suffer Eclipses; also by their mutual communications, cold qualities, solidity and roughness, that help us to see it; for

for many think, that we should scarce see it, were it not for its irregularities, which cause its light better to reverberate the beames of the Sun.

5. I shall add to this, That if God, who could make many Worlds, had not made them, his power might be said, in some respects, to have been idle, unprofitable, and limited; for though it ayms not so much to the works, as to the end of them, yet it being for his greater glory, though he doth not whatsoever he can, we cannot affert, That he was not willing to make many Worlds; as we cannot deny,

deny, but he had the power to make them.

Thirdly, the common and general opinion grants, the four Elements to be in Heaven; for it believed, that there is the Empyred Heaven, that is the Heaven of fire, the crystal Heaven, that is of a waterish nature; the Heaven of the Stars, which is solid, and by consequence of an earthly nature; and the Air is apprehended to be amongst those Stars: the four Elements then are in Heaven, and why may not there be also mixt and composed bodies? and why not the effects as well as the causes, which

which compose them, are
it? and why could they n
act as well within them
selves, as in things far re
mote?

Fourthly, the Creation of
the world, or of many worlds,
is a thing that wholly de-
pends from the free Will of
God, neither can it be deny-
ed by any natural reason; for
God acts not outwardly by
necessity, as to limit him-
self only to this our World,
but on the contrary, God wil-
leth whatsoever implyeth
not contradiction. But ma-
ny worlds do not imply con-
tradiction, neither from God,
nor from the thing created;

and

and it seems requisite, that the object be the measure of the power; but this World not being infinite as God is, there must needs be an infinity of them.

Chap.

Chap. XL.

Discoursing of those Stars discovered of late, and of the Spots of the Sun.

HAving above mentioned the Spots of the Sun, and some new Starres, and thence having drawn some Arguments, it may not be out of our purpose to speak of them now. As concerning the new Stars, *Galileus* relates, that in the yeares 1572, and 1604, were seen some new Stars, that were higher

higher then any one of the Planets; whereof the first was in *Cassiopeia*, as *Tycho Brahe*, and *Campanella* declare; so likewise did *Hipparchus* observe a new Starre, 100 years before Christ's Birth.

And as touching the Spots of the Sun, I shall content my self to say, that *Galileus* asserts, That these Spots are bigger then all *Asia* and *Africk*; some there are, who believe them to be onely vapours, and some impressions of the Ayr, because that their figures are irregular, and that they are seen in great number disappearing, and again

again appearing; but they onely hide themselves in the Sun; or to say more congruously, they onely disappear by reason of their too nigh approach to the light of the Sun; and besides, they have a regulated course, according to which they fail not to return at a certain time; and therefore they are some Stars, touching which I send the Reader to *Tardus*'s book, who calls them the Stars of *Bourbon*, after the name of the King of *France*, under whose reign these new Stars were first discovered.

Chap.

Chap. XLI.

Containing divers Reasons drawn from several places of Scripture.

As it is said in divers places of the holy Scripture, That the Earth is full of corruption; or that it sings out the miracles of God by a figure of Rhetorick, that puts the continent for the thing contained; several Texts of the Scripture do also say, as in *Job* 25. v. 5, 6. that the Stars are not clean before God, that they

they sing his praises, and are his Armies. These are things that very hardly enter into the heart of Men, and very likely part of them that *Paul* saw in his extasie; but being he saith, that it *never entred into the heart of man*, he might mean, unto his time no body had believed it, or at least hath not had the full and particular knowledg of them: wherefore *Job* saith, chap. 38. v. 37, 38. *Who can number the clouds in wisdom? or who can stay the bottles of Heaven.* And *Solomon* in the book of *Wisdome*, ch. 9. v. 16. *And hardly do we guesse aright at things that are upon Earth, and with labour do we find the things that*

are before us; but the things that are in Heaven, who hath searched out? And *Esdras* in his second book, chap. 4. v. 21. *They that dwell upon the Earth, may understand nothing but that which is upon the Earth; and he that dwells above the Heavens, may onely understand the things that are above the heighth of the Heavens.*

It may be replyed, That these Texts are to be understood of the Angels; But the Texts alledged in the following Chapter will make it clear, that it's to be understood of Men onely; for *Campanella* hath even observed, that *Paul* to the *Colossians*,

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Chap.

Chap. XLII.

Containing the Reasons drawn from the word of God.

IF then there be divers Worlds, and that the Stars be inhabited, those worlds may have been created some before the others, and so shall end at divers times; and perhaps some are ended already, and some are created of new: the believers of those former Worlds seem to speak in *Psal.* 90. ver. 1, 2. saying, *Lord, thou hast been*

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our dwelling place in all generations, before the Mountains were brought forth, or ever thou hadst formed the Earth and the World.

And God seems to be angry against the men of those worlds, in 2. of *Esdras*, c. 9. v. 18, 19. because those who were before, were better in these terms. *And now when I prepared the World which was not yet made, even for them to dwell in that now live, no man spake against me, for then every one obeyed, but now the manners of them which are created in this World; that is made, are corrupted by a perpetuall seed,* but there is yet one Text more pregnant for to prove that

there were other Worlds before this, that are ended, and have been judged as we shall be one day, he speaks in these terms in the 2. Book of *Esdras*, c. 7. v. 34. And the World shall be turned into the old silence 7. dayes, like as in the former Judgments, so that no man shall remain: And if it be thus, might we not say that those great Comets that remain so long above the Region of the meteor, are the burnings and consummations of some Stars that are ending, and which we had not perceived by reason of their far distance: For as in former ages, new ones have often been seen, yea, e-

ven in this our own; so likewise may some others end: and to all this, we may adde that of the *Revelations*, viz. that the Stars shall fall, that is to say, shall end. Many ancient Authours were of this judgment, believing not only that there are divers Worlds at one and the same time, but that there had already been some before. *Origenes* was of this belief, and that ours shall last seaven thousand years, and that many of the others shall last forty nine thousand years. *Campanella* differs not much from this judgment, the Wisedome of God speaking in the *Proverbs*, saith, ch. 8. v. 23. 31.

31. Before the Earth was, I was with God, rejoycing in the habitable part of his Earth, and my delights were with the Sons of Men. And in the 26. v. while as yet he had not made the Earth, nor the Fields, nor the highest part of the dust of the world.

Chap. XLIII.

which is a sequell of the Texts of the Holy Scripture.

THough we have divided these places of Scripture into two chapters for to confirm this opinion; yet I will not omit some few others, which may in some respects fit this same subject.

Paul to the *Ephesians*, c. 1. v. 10. speaking of Christ Jesus, saith, *That in the dispensation of the fullnesse of times, he might gather together in one, all things in Christ, both which are in Heaven, and which are*

are on Earth, even in him. And to the *Coloſ.* 1. *v.* 20. *God having made peace through the bloud of Chriſts Croſſe, reconciled all things to himſelf, whether they be things in Earth or things in Heaven.*

How may theſe two Texts be expounded if we do not underſtand them of theſe men who are in the Heavens or Stars, whom God hath gathered to himſelf, and redeemed? For if it be ſaid that they are thoſe that died before Chriſt; It cannot ſtand with reaſon, becauſe their Souls were already in Paradiſe, or in Hell: but where the Soul is, thither alſo ſhall the body go after the Reſurrecti-

David speaks thus in the *Psal.* 113. *v.* 6. *God humbles himself to behold the things that are in Heaven and in Earth, for he dwells on high*; This Text indicates that God is beyond the Heavens, and that in the Heavens whereunto he humbles himself, there are Inhabitants as well as in the Earth.

And in the *Ps.* 148. he bids *the Angels, Stars, and Earth, &c. to praise him*: That is to say, he spoke thus to the Inhabitants thereof by a figure, which takes the continent for the thing conteined.

Ecclesiasticus, saith in his 16. chap. and 18, 19, 20, 21. verses, *Behold the Heaven, and*

and the Heaven of Heavens, the deep, and the Earth, and all that therein is shall be moved, and the Foundations of the Earth shall be shaken with trembling, when he shall visit them, and who can conceive his wayes, for the most part of his works are hid. And in the chap. 43. ver. 32. saith, that *There are yet hid greater things then these be, for we have seen but a few of his works.* By these two places it plainly appears that those things which we have not seen, and are greater then any that we know, are somewhere else then in this Earth, viz. in the Heavens, and that consequently

ly there is more then one World.

I might yet alledge divers other Scriptures, as that of the 2. chap. to the *Philip.* verse 10. and *Psalm* 89. verse 7. But that I may not be too tedious, I shall not make farther mention of others.

Chap.

Chap. XLIV.

How the naked truth of the plurality of Worlds may be discovered; and especially what is in the Moon.

But being we have neither the wings of birds, nor the eyes of Eagles or Lynxes, nor can heap up Mountains one upon another as Gyants, how can we see perspicuously the things that are in the Moon, and in the other etherial bodies?

To this I answer, That those ancient Ages have shewed us the way, by the Tower of *Babel*, by *Pyramides* and *Thores*, from the top of which, scarce could men be discovered and perceived; and from those tops were discovered Countreys of far distance, immortalizing the memory of their Authors. It would be requisite, that a King or great Prince, desirous by emulation to immortalize his name, would set poor prisoners, with other Workmen, to the Work, that from it (being high elevated up into the Ayr) we might more distinctly behold by the help

of

of the Prospective-glasses; what is within the Stars, and chiefly in the Moon; no doubt such a Tower would serve much, being built upon a very high Hill.

But if it be objected, That there are very high Mountains, from which nevertheless no new thing can be seen.

I answer, That besides that, no body went to try it with a Prospect-glasse, those Mountains, though high, by reason of their crookednesse, are not very high, if we consider them perpendicularly; and yet it hath been observed, that from the highest Hill of Mount *Pyreneus*,

reneus, the Sun appears more majesticall then ordinarily, which cannot proceed but from the heighth of that Mountain. And though nothing could be discovered from such a Tower, which I cannot believe, yet it would be a work of immortal name to that Prince who would do it.

And that it may be out of doubt, that from a high Mountain, or some such place high elevated, something may be seen and observed in the Stars, *Bethancour* in his Travels asserts, That from the top of *Teneriſa*, a very high Mountain in the *Canaries*, the Sun may be seen

to

to turn round upon himself, without the help of any Prospective-glasses.

Secondly, it's most certain, That if the Prospective-glasses can be brought to a full perfection, that many things will be discovered new in the Stars, and at the first time that they were invented, divers things have already been discovered; for *Galileus* and *Descartes* declare, that there may be made Prospective-glasses, that shall multiply the object a thousand times in his bigness: If it be so, what is there in the Firmament that may not perspicuously be seen?

Lastly,

Lastly, some have imagined, that as Man hath imitated the Fishes in swimming, that he may also find out the Art of flying, and that by such an artifice, he may without any other help see the truth of this question; the Histories relate to us some Examples of men that have flown. Many Philosophers think it feasable, and amongst others *Roger Bacon*; I might here relate all those Examples, and divers Reasons for it; yea, some instruments and engines for that effect: but I shall shew these things in my Book of Naturall Magick; and in my

discourse

discourse, *de arte volandi*; because though one could attain the Art of flying, yet it would avail him but little for this purpose, because that besides, by reason of his weight he could not rise very high, he could not remain fixt to behold Heaven, or to make use of Prospective-glasses, but would wholly bend his mind to the guiding of his Engine.

Chap. XLV.

Of Scipio's *Dream; with some new Reason upon this subject-matter.*

WE read in several Authors, that *Scipio* dreamed a very notable dream, wherein he thought that he was carried up high, and that he saw other Worlds in the Stars, whence he perceived the Roman Empire; and seeing it from very far, found, that it took so little room in this

this our Terrestrial Globe, that upon that he conceived an exceeding great contempt of those, who despising their life, did venture it, for to get a famous name (though but vain) in that little corner of the Earth. Both *Cicero* and *Macrobius* have composed Books concerning this Dream, and have doubted under what sort of dreams this was to be ranged. For my part, I think that it must be called a Vision, being he saw things that are reall, *viz.* the airy Lands, and the Stary and Planeticall people. Or it may be, that having such a belief, he was desirous to propose

propose it, as many others in such like case have done, thereby to see how it would be received: And truly, if this was his scope, he hath had no bad success; for it hath been embraced by many illustrious Persons, who have found it consonant to Reason.

Besides all this, Is it not beyond all reason and appearance, that so many huge and vaste bodies as the Stars are, should remain barren and fruitless. I think, that if I should discourse orderly, and gradually with the most opiniative man that is, that I should obtain of him, that

that those bodies, whereof some are three hundred times bigger then the Earth, do at least bear some plants; and if this were granted, how could these plants be there, if they were not for the use of some living Creatures: and if it could be granted, that there be some creatures, may it not also be granted, that there are Men for to make use of them, being they are made for them? And lastly, is it not lawfull and equall, that there be men whither soever their dominion reaches; but Man rules the Stars, as well as the Earth and Sea, the whole World is made for him; and consequently

sequently there must needs be some Inhabitants in the Stars.

Chap.

Chap. XLVI.

Answering the Objection of those, who believe, that the Spots of the Moon are the figure of the Earth.

BEfore I conclude this Discourse, I think it yet convenient to answer them, who think that they have hit right on the head of the nayl, when they say, that the Spots in the Moon are nothing else but the figure of the Earth's shadow, which communicate themselves in

the Moon, as in a Looking-glasse; but they do not consider, that there is no analogy nor resemblance between those Spots, and those of our general Mapp; nor that in dark nights this figure can be communicated to the Moon; or could it be said, That those Mountains in the Moon, are nothing but some flat and low obscurities; But I answer, That the shadow of those Mountains appears and turns as the Needle of a Sea-Compasse, proportionably as the Sun inlightens them diversly, which could not be, were they not bodies high elevated; for they would be without shadow,

dow; and Monsieur *Gassandus* did sometimes say, That he had mathematically measured the heighth of some Mountains and valleys in the Moon by means of their shadows; and that he had found the heighth of the Mountains in the Moon to be much more remarkable, then of those of the Earth.

Chap. XLVII.

Containing an Argument drawn from those mountains that are in the Moon.

WE must observe that the Moon being half full, more or lesse out of it are seen many little spots, as drops of Water, or Orient Pearls very bright. Now they are the tops of the Mountains, that are lighted by the splendour of the Sun, because they ascend as high as that part of the Moon which

which is inlightned; but becauſe the Mountains are broad at the foot, and are dark at the bottome, thoſe drops appear to be ſomewhat ſcattered one from the other, and ſo ſeem looſed from the Moon, though they be not. So likewiſe if one ſhould contemplate from above the Mount *Pireneus*, or the *Alps*, he would only ſee their top in the form of ſo many Pearls, becauſe the top of them would reverberate the ſplendour of the Sun, and their Snows would encreaſe the light of it.

Obſerve alſo that *Paul* in his 1. to the *Cor.* c. 15. v. 40.

asserts that the *Glory of the celestial bodies, is divers from that of the terrestrial, and that there is one glory of the Sun, and another glory of the Moon, and another glory of the Stars.* But if they differ in glory, they do so by reason of the variety of creatures that are in them; in the 47. verse, the Apostle seems to indicate that there are heavenly men, and also earthly men.

The Courteous Reader is intreated to consider that this is onely a fragment of the Volume intended by the Authour, for to set forth the life and Philosophy of *Democritus*, who asserted this opinion: So that

that I say onely what he himself would have said to confirm his position. But if it seems in any particulars to oppose and contradict the Principles of Religion, and that my Arguments do not give full satisfaction, I shall freely retract and uncloath my self of this opinion, if it be any wayes noxious to Religion; if it be recited and blamed by ignorant persons, who are not able, nor fit to answer to the Objections, and cannot or will not weigh them by reason, I have what I expect. But if learned and wise persons can shew me the contrary with sound proofs, and strong reasons, they shall

find me ready to yield up this my opinion to their censures. Though above fifty Authors of this same opinion, going before me, have not yet been contradicted. I hope that I give no more occasion of distaste then they.

MVSEVM BRITANNICVM

FINIS.